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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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VETERINARY TERMINOLOGY.

Prof. Arthur Keith, an anatomist of the highest distinction, has recently called attention to the present unsatisfactory condition of the nomenclature of human anatomy in this country. There is also room for improvement in British veterinary anatomical nomenclature, which, though not in the dire confusion which obscured it thirty years ago, is still not perfect. Unfortunately anatomy is far from being the only subject regarding which British veterinarians need to reconsider their terminology. The need is just as great in some other subjects; and nowhere is it more obvious than in the two which, after all, most concern the practitioner, viz., clinical medicine and surgery.

The subject is rather a complicated one; and therefore, we only discuss it to-day from one point of view. Perhaps the most important, though not the only requisite for the name of a diseased condition is that it should be sufficiently definite. It should specify one condition, not embrace a number of diverse ones; and here our present terminology, as many clinicians use it, is open to grave objections. The common surgical terms of ringbone and quittor are two of the most glaring examples. There are men who use the word "ringbone" to signify almost any phalangeal exostosis, or "quittor" to include almost all sinuous wounds of the coronary region. Others restrict the term "ringbone" to an exostosis involving an articulation and accompanied by arthritis, and "quittor" to a sinuous wound of the coronary region involving a lateral cartilage. The latter terminology renders each word a specific name for one serious condition. The former one widens the the meaning of each word to include other very different and much less grave lesions. There can be no question which of the two conduces most to scientific exactitude.

Of course, the nomenclature of medicine and surgery will never be absolutely satisfactory; but the extreme looseness of expression evident in these examples could and should be removed. The nomenclature of human medicine and surgery is much more exact than ours; and periodical official revision does something to keep it so. No such procedure has ever yet been attempted by the veterinary authorities of this country; and it is time a commencement was made. For the R.C.V.S. to appoint a Revising Committee would be the quickest and surest way of removing at least the worst defects from our terminology. Before many years pass we may be asked to join in working for an international veterinary nomenclature; we really ought first to reform our indigenous one.

TREATMENT OF ECZEMA.

By W. R. DAVIS, M.R.C.V.S.

It appears from Mr. Gray's article in your last issue that at any rate one eminent member of the profession is not in accord with Prof. Macqueen's generalisation—that a practitioner who uses greasy preparations in the treatment of eczema is simply prolonging the case.

I did not suggest that every case of eczema ought to be treated by greasy applications; the point is whether such remedies are contra-indicated in eczema.

Last summer, in calling at a farm to attend a horse, I was asked to go into the house to see my client, who was in bed suffering from a severe attack of eczema. He lay on the bed with just a sheet over him. The skin of his face was livid and greatly swollen, the orifices of eyes and mouth appeared like small slits in the enormously swollen surroundings. The skin of the body generally was in the same condition, and the scrotum was as large as a man's head—a frightful object. The patient was covered with a greasy preparation—I think Oxide of zinc ointment. A fairly rapid recovery was made, and so complete that not a trace of the skin affection is now visible.

Mr. Gray sneers at the old doctor's preparation for the treatment of burns, but if the object is attained it does not much matter whether the pharmacy is elegant or not. The oil and whiting mixed in a gallon jar cured the burns, and the Zinc oxide rubbed up on a porcelain slab with benzoated lard, and sent out in a covered pot, could do no more than cure the eczema.

I am asked whether I would use greasy applications in peracute exudative eczema, or in dry or moist seborrhœic eczema. I quite expect that I have committed that enormity. I do not apprehend, however, that anything tragic arose from my indiscretion.

I confess frankly that in presence of many acute cases of skin diseases in dogs and horses I am puzzled to know into what category they ought to be placed, but that does not hinder me from treating them, nor does it make me envious of those more facile persons who at a glance can place each case in its proper division. I do not for a moment suppose that the doctor who cured the burns, or he who cured my client, could have named the degree of the burns or the classification of the eczema, or in either case what layers of the skin were involved, nor do I imagine that their treatment was much prejudiced by the absence of such knowledge.

Mr. Gray states that what would suit a pigmented skin would in all probability be injurious to a pigmentless skin.

Some years ago I was called to a chestnut carriage horse affected in both hind legs with a very severe form of eczema. The skin as far as the thighs was greatly swollen, extremely painful, and serum exuded from its surface. Both legs were white to just above the hocks. It might have paid to prescribe a lotion for the chestnut parts and another for the white, and indeed we know that a bottle for the pain and one for the swelling was by no means uncommon in other days.

I have not used washing soda for burns but I have employed picric acid, and the much vaunted iodine also for these lesions, and I am satisfied that oily preparations are greatly superior to them.

As you, Mr. Editor, point out in your footnote to Mr. Gray's article, the question is, Why an oleaginous dressing may be used to skin damaged by heat, and why a contra-indication arises when the damage is due to other causes ?

"Gentle shepherd, tell me why."

CLAVICEPS PASPALI POISONING IN CATTLE.

R. Paine, F.R.C.V.S., Govt. V.O., Kokstad.

Paspalum dilatum is a grass widely grown in the Union of South Africa, and is affected by a special form of ergot which produces very characteristic symptoms.

When the seed head is affected it is covered with a peculiar shiny, sticky material which is readily detectable.

So far I have only seen bovine females affected, no males having access to the affected grass, and in one case where calves were running with the cows, they showed no symptoms. Upon one farm some fifteen head had been grazing on affected paspalum all the summer, and when fifty fresh animals were placed in the same camp they developed symptoms within two days, although the original fifteen which were with them remained healthy. The conditions of age, sex, etc., were identical in each herd.

Symptoms. The cases may be well described by stating that the animals appear to be heavily drugged or intoxicated. They stagger and sway, especially behind, the eyes are protruded and staring, breathing hurried; there is muscular twitching, particularly over the shoulders. Sometimes the animals may be inclined to charge, some cases are totally unable to rise for two or three days.

The animals continue to feed and ruminate, and in no case did abortion occur. The milk supply is arrested for the time being.

Mortality—nil.

Duration of illness. Slight cases one day; bad cases up to ten days.

Seasonal attack. Two farms affected in April, at which time of the year paspalum is badly attacked in these districts. The occurrence of the case on one farm A, in August is explained by the fact that it was caused by packed paspalum hay which had gone to seed, and that the cattle had not had a previous opportunity to get at this hay.

ABSTRACTS FROM FOREIGN JOURNALS.

The Prophylaxis of Foot-and-mouth disease.

Hoffmann, in *Die Oesterreiche Wochenschreft für Tierheilkunde*, some six years ago, published an article upon this subject. He considers that veterinary prophylactic measures are at least as efficacious against foot-and-mouth disease as medical measures are, for example, against cholera. To make prophylaxis even more efficacious, it is necessary to work to discover the causal agent of the disease. This has been impossible hitherto; but prophylactic measures may be further perfected, on the one hand by improving the conditions under which animals are kept, and on the other by avoiding infection of the feet from the buccal lesions.

Hoffmann lays stress upon the latter point. He is convinced that the lesions of the feet are caused by the flow of virulent saliva down the fore limbs. To avoid this he proposes to collect the saliva in appropriate receptacles fixed muzzle-wise to the heads of the patients, taking great care not to spill the saliva upon the ground. In addition, he advises that the hoofs should be protected against possible infection by applying an antiseptic ointment before any lesion appears.

When the disease has appeared upon a farm, Hoffmann advises the use of the saliva to produce a benign form of the disease among the animals still unaffected. For this purpose the virulence of the saliva is attenuated by heat or by the addition of an antiseptic.

Hoffmann also thinks that the milk of affected cows may be a good preventive and curative agent. To confer immunity upon healthy subjects and to obtain satisfactory curative results, he suggests that the milk should be collected aseptically, reduced in virulence by heat or the addition of an antiseptic, and injected with aseptic precautions into the peritoneal cavity.—(*Revista de Higiene y Sanidad Veterinaria*). W.R.C.

DIET AND ABORTION.

Dr. Pierre A. Fish, Ithaca, N.Y.

The following is from the Editorial pages of the *Journal of the American Veterinary Medical Association*:—

"It is probably a natural common belief that all of the requirements have been met when a balanced ration for the animal has been prepared. So long as the proper proportion of digestible protein and energy producing material is present, little thought is given as to its source or that it should have anything but a beneficial effect upon the processes of growth and reproduction. It might be expected that just as vigorous offspring should result, no matter where the material of the diet came from, so long as it was arranged in a balanced form.

That this view needs some modification has been pointed out by Prof. E. B. Hart, in a paper on "The Influence of Certain Natural Feeding Materials on Growth and Reproduction," presented at the last meeting of the Wisconsin Veterinary Medical Association. Experiments were tried on a group of grade Shorthorns while they were at an approximate weight of 300 pounds.

Balanced rations were prepared from the corn, wheat and oat plants, and a mixture of the three. It was observed that the animals grew fairly well on all the rations but it could be seen that those receiving wheat were not as vigorous or well developed as the other lots.

Another experiment upon some young grade Holsteins with corn and wheat rations showed that those receiving the corn ration grew well, matured, showed early œstrum and were physically strong in every respect; while those receiving the wheat ration grew only at a fair rate, and when they attained the weight of 1000 pounds they ceased to grow. They began, in fact, to lose weight and showed no vigour. There were evidences of physical weakness, and even blindness ultimately resulted. They showed no œstrum, and to have continued them for breeding purposes was utterly futile. So pronounced was the emaciation that it was deemed advisable to kill them.

Because of the prevalence of contagious abortion in this country it might naturally be asked if this affection might not enter into and complicate the results of the experiments. Such a contingency was considered, and during the course of the experiments the animals were placed under the observations of, and tests made by, a competent veterinarian, who declared the animals to be free from the disease.

With an oat ration or a mixed ration, the offspring were good, but in no case did they appear to be quite so vigorous as those fed upon a corn ration. While it may appear in general that a mixed ration is safest, it may, nevertheless, be shown that a restricted ration may be physiologically perfect and a mixed ration may contain something deleterious to its physiological value. When a corn fed animal was changed to a wheat ration it became exceedingly stiff, and if the wheat ration was continued too long prostration would result.

Attempts to locate the trouble in the wheat ration showed, for one thing, a deficiency of a proper salt mixture. If an animal was fed upon corn grain and wheat straw the offspring were weak and sometimes born dead. When to the same ration a suitable salt mixture was added, perfect offspring resulted. If the corn grain of the ration was displaced by wheat grain and the salt mixture added, disaster again resulted. Evidently something more than the salt was responsible. The second factor appears to be an inherent toxicity in the wheat grain. This toxicity was not apparently affected by heat; for when baked wheat was fed there was no improvement. The addition of butter fat to the wheat ration, to supply the growth promoting factor was not uniformly successful. There was failure as well as success.

When wheat grain was mixed with a legume hay, such as alfalfa, so that the alfalfa formed but 20 % of the ration, there was perfect success, and normal offspring were produced.

Later work has shown that the toxic material is very largely present in the embryo of the seed. When wheat embryo was imposed on corn stover so that the ration contained four to five times the amount of embryo as would ordinarily be present when whole wheat was fed, an early abortion resulted—the calves being dropped at six or seven months.

In the process of milling the embryos pass into the wheat bran in small amount, but in wheat middlings they appear in much greater quantity.

Histological study of the spinal cord of animals fed on the wheat ration revealed an œdematous condition of the motor cells and an appearance of compression and partial degeneration of the cells. The effect upon the nervous system would suggest a cause for the blindness which occurred in some cases.

The experiments are of great interest in showing the limitations of the theory of a balanced ration: they indicate the importance of factors other than the presence of protein and latent energy in the successful diet; the necessity for the proper balance of inorganic salts in directing the metabolic processes of the body, is well illustrated; the presence or absence of vitamines (growth promoting substances) concerning which our knowledge is yet too limited, and their relation to deficiency diseases; all emphasise how really complex the problem of nutrition is and how fundamental it is in attaining the best results.

Aside from its great physiological interest, the work of Prof. Hart should also have a very direct interest in relation to abortion disease—the disease which, at present, is such a menace to the cattle industry of this country. It is possible, in some instances, that abortion may be an affair of nutrition rather than of the *Bacillus abortus*. In the wheat growing districts, it may be expected that wheat in some form may serve as a portion of the ration. If to this the abortion bacillus be added, the course of the disease should be facilitated. On this ground contagious abortion might be expected to be more prevalent in wheat growing districts. Statistics would be interesting. Since the experiments indicate that strong, vigorous offspring are produced when a corn ration is fed, it might be expected that abortions might be less frequent in corn raising districts. Even when the problem is complicated by the presence of the abortion bacillus, it might be expected that a corn ration might assist in conferring increased resistance to the ravages of the disease. Again statistics would be interesting.

All of this should be of interest to the practical veterinarian. Physiological as well as pathological factors in conjunction with sanitation should be considered. In the light of the experiments, the least that can be done is to inquire into the diet.

NORTH MIDLAND VETERINARY ASSOCIATION.

A meeting was held at Sheffield on June 26th, when the following were present:—

T. C. Fletcher, Sheffield, President; H. Thompson, Sheffield, Hon. Treasurer; J. S. Lloyd, Sheffield, Hon. Secretary; Messrs. T. Bowett, Worksop; W. Collinson, Anston; R. Hudson, Retford; E. Marrison, Bakewell; W. Murgatroyd, S. H. Nixon, S. E. Sampson, Sheffield; M. Robinson, Barnsley; and F. L. Somerset, Chesterfield. Capt. Oxspring, A.V.C., and H. R. Laycock, Sheffield, were also present as visitors.

Apologies for inability to be present were received from J. A. Hodgman, Barnsley, and J. S. Wheatcroft, Wentworth, Rotherham.

The first part of the proceedings was a series of operations by Mr. R. Hudson, carried out at the Veterinary Infirmary of Mr. S. E. Sampson. The visitors were received by Mr. and Mrs. Sampson, who kindly provided light refreshments.

The first operation was castration of a colt by a painless method. Castration was done in the standing position, and the hæmorrhage stopped by the actual cautery. Next, an operation for radical cure of a large umbilical hernia in the horse. Another very interesting case was submitted by Mr. Sampson to the gentlemen present for diagnosis.

The company adjourned to the Grand Hotel, Sheffield, where tea was provided at the expense of the Sheffield members of the Association. The general business of the quarterly meeting followed, the chair being taken by Mr. T. C. Fletcher, President of the Association.

The minutes of the last meeting, having been published, were taken as read, and on the motion of Mr. Collinson, seconded by Mr. Fletcher, were adopted.

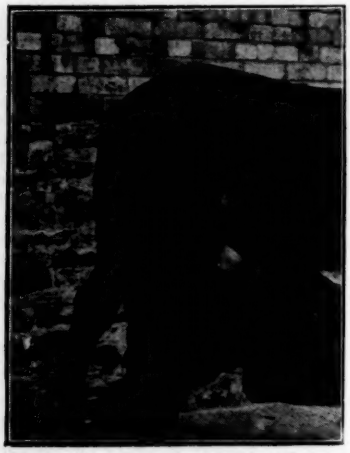
The report of the Council meeting held on June 12th, was also received and adopted on the motion of Mr. S. H. Nixon, seconded by Mr. Robinson.

Captain Oxspring, A.V.C., was nominated as a member of the Association by the President, the nomination being seconded by Mr. Sampson.

AN OPERATION FOR THE RADICAL CURE OF UMBILICAL HERNIA,

By R. Hudson, F.R.C.V.S., Retford.

The hernia was of large size—about seven inches transverse diameter, and about eight or nine inches in depth. The opening in the abdominal wall was elliptical in shape about five to six inches in the longer diameter. The edges of the abdominal wall were thin, and became more so towards the pelvic rim where they could not have been more than 3/16 in. in thickness.



Having prepared and shaved the skin over the region of the hernia a longitudinal incision was made through the skin over the abdominal opening, the peritoneal sac separated by fingers and knife to avoid hæmorrhage as much as possible, and the point of union of the umbilical cord being left attached to the peritoneal sac.

Around the abdominal opening the sac was carefully separated with the knife, to prepare a surface favourable for union when brought together by suture. The sac was squeezed from end to end, and no adherent bowel being present it was twisted and a needle carrying a strong silkworm gut ligature was passed through close to the opening. This ligature was passed tightly round the neck of the sac and tied.

Owing to considerable strain and the slippery surface of the peritoneum it failed to hold when the sac was removed, so the edges were taken up in forceps and a purse-string suture applied, as follows:—Penetrating the abdominal wall on one side about the centre of the opening, a wire suture was passed out through the peritoneum at the edge, in again at the opposite edge, and out through the abdominal wall, drawn tight and twisted. The index finger passed through a small opening made in the peritoneum at the lower end guided the needle across; wire was used because it does not slip when twisting up like silk or gut when tying.

Only one wire suture was necessary to prevent undue strain on the sutures, which were next passed through the edges of the abdominal opening, taking the same direction as the wire suture. These sutures were of strong silkworm gut, placed a little over ½-inch intervals, and were passed with a handled needle slightly curved and eye-slit at the point. Having completely sutured up the opening, the wire suture was removed.

The large quantity of loose skin was difficult to deal with. When the portion not required was cut away it was found that the end of the wound reached to the opening of the prepuce where the skin was very loose. Finding that the skin when brought forward from the posterior end to the front approximated well into a V-shaped wound, it was sutured in that position. Having seen the colt urinate before the operation and noticed that he did not "draw" properly, the position of the wound would be more favourable should he continue to urinate into the prepuce.

The outer wound was dressed with weak Sol. iodine, and dusted over with Iodoform and Boracic acid, the latter being continued as a dressing.

About forty-five minutes before operating, the colt (a three-year-old half-bred) received 4 c.c. Liq. ext. cannabis Indica intravenously. It acted well, for when sent for from the stable the colt's head was resting on the manger and he stood almost asleep. During the operation he only flinched slightly when the skin was cut.

The Cannabis Indica solution was composed of Ext. 1 part (Borroughs, Welcome), Alcohol, 2 parts. It should be filtered and injected very slowly.

The President proposed that a very hearty vote of thanks be given to Mr. Hudson, and said that they were obliged to him for stepping into the breach so that the Association could have a business meeting instead of the usual Summer pleasure meeting. The vote of thanks was seconded by Mr. Somerset and supported by Mr. Sampson. The latter mentioned previous operations which he had carried out in similar cases, some being fairly successful, others being followed by strangulation and death.

He preferred the radical operation, and hoped that in the case they had had that afternoon it would be successful. He welcomed all present and had hoped more would come. The vote of thanks was carried with acclamation, and Mr. Hudson replied.

CLINICAL CASES.

S. E. Sampson, M.R.C.V.S., Hillsbro', Sheffield.

Inversion of the Bladder.

Subject. A brown 6-year old Shire mare, which was reported to me as having foaled the day previously a live healthy foal; the mare had cleansed, but was straining at intervals of varying periods. The owner not thinking anything serious was amiss, requested me to supply some suitable medicine, which I did, giving a few ½-oz. doses of Chloral hydrate, to be given every six hours in water. On the following day the owner reported the mare to be much better and no further treatment needed.

Three days later I received an urgent message to attend, and on arrival at the farm I found the mare in a good deal of pain, straining hard, temp. 102.4, pulse 60, with very little appetite. On examination of the vagina, a large "tumour-like" swelling, bleeding freely from its surface, could easily be felt, and it was with some difficulty that I could distinguish the nature of the tumour and once very nearly decided to puncture with small trocar, but upon further examination I found that I had to deal with the bladder. The length of time that the organ had been displaced caused the walls to become considerably thickened and granulating on the exposed surface.

After I had disinfected the parts I attempted reduction by pressure applied by both hands being placed round the organ, thus ( ). After half-an-hour I had reduced the mass by about half the size, and started to return the organ, but owing to the straining of the

mare and the cramp which had become very evident in my hands was unable to do so, and I decided that the mare must go under CHCl 3 to be successful, and that I should require some help to replace the organ after it had been reduced in size. There was fortunately a 'phone close by, and I enlisted the services of a brother practitioner in Sheffield, who at once came out.

The mare was cast, and went under the anæsthetic easily. After the seat of operation had been again disinfected, the organ was reduced by pressure of both hands as before, and replacement was commenced at the neck of the bladder. The fundus was replaced with great difficulty owing to its still swollen condition, chiefly by the aid of a mechanical pessary in the shape of a balling stick well protected at the end with cotton wool.

A medicinal pessary of Salol was inserted into the bladder, and the mare was allowed to rise, when straining was again very marked, and we decided to again insert the mechanical pessary and by sutures in the vulva retain it in position. The mare received doses of sedative medicine (Morph. hydrochlor.), and the prognosis of both my colleague and myself was very unfavourable.

On the next day the mare seemed fairly comfortable, had eaten a little soft food and was taking notice of her foal: pulse and temperature slightly lower. The balling stick was removed, a salol pessary inserted into the bladder, into which I could easily get three fingers. A course of saline febrifuges was carried out for a few days and the mare steadily improved, although there persisted for some time a purulent discharge from the vagina which gradually continued to be less in volume, and the mare went to work in a month from foaling.

Remarks.—The length of time the bladder was inverted (six days) the condition of surface of the organ—bleeding and granulating, the length of time it took to reduce and return the organ (5½ hours), make this case interesting. I have only seen one other inverted bladder, when reduction was quite simple compared to this one.

Coccidiosis in the horse.

Subject. A hunter bred four-years-old colt was reported in the early part of April 1914 to be "doing badly"; teeth and worms were suggested by the owner as the cause. However, on examination teeth were eliminated from the problem, and I decided to treat for worms, and gave tonics also. This line of treatment with variations was carried on for a month. The colt in the meantime had lost flesh rapidly, and had occasionally purged badly.

On May 16th I decided to test for tuberculosis but got a negative reaction. On May 30th I applied the mallein test with a negative result also.

As the colt had become very emaciated and looked the picture of misery, the owner consented to have him slaughtered.

The post-mortem revealed the mucous-membrane of small intestines thickened and somewhat of the appearance of what one gets in Johne's disease in cattle. The mesenteric glands were enlarged and congested; all other organs were healthy. I submitted a portion of the intestine to Mr. H. R. Lewis of City Veterinary Department; and he found present on and in the mucous membrane large numbers of a coccidian parasite, which had caused the disease from which the animal had suffered.

The parasite is circular in shape and measures only 3mm. in diameter, it penetrates the epithelial cells, which become detached and finally destroyed. There is a shedding of the dead portions and this gives rise to the roughened appearance of the mucous surface of the bowel.

This disease is, I believe, very rare in horses in this country; at least very few if any cases have been recorded.

Tetanus after Castration.

Subject. Yearling colt, grazing on a poultry farm, was castrated by me with écraseur on May 17th last. The colt was cast with ropes, the scrotum well swabbed with Hyd. perchlor. in spirit. There was practically no hæmorrhage during and after operation.

On May 29th the colt was reported to be very stiff, and on visiting I found that there were unmistakable signs of tetanus, so as there was no convenience to have the animal properly nursed, and only a shed to run in, I decided to leave the animal in the open. The jaws could be opened about 1½ inches, and I managed to give a 5-dram physic ball which acted well in 24 hours. The cold received ½ dram doses of Ext. bellad. twice daily in sloppy mash, which he managed to swallow fairly well. After the fourth day improvement was noticed, with complete recovery in about 10-12 days.

Eversion of Uterus in mare.

A four-year-old cart mare was found at 7 a.m. to have cast her foal two months before due time. The owner thought the mass which was hanging from the mare's vagina was cleansing, but at 2 p.m. the same day a neighbour's advice was sought, with the result that a message was received at my yard to attend at once, but as I was out in another direction I was unable to get to the farm until 8 p.m. I found the mare in a most pitiable condition; she had become almost exhausted, the uterus was covered with fæces and slush off the stable floor; everything was in the worst sanitary condition it would be possible to conceive. However, I decided to attempt replacement, and after the organ had been well washed with pretty hot water, and disinfected, I got the uterus in a clean sheet and applied pressure to the outside, and by so doing reduced the bulk of the organ by one-half. I next replaced the organ, commencing at the neck and pushing the horn of the uterus back into its normal position by the aid of a pint bottle. An Ac. boric and Iodof. pessary was left in the uterus, and the vulva sutured up.

There was very little straining after the operation, and beyond receiving ordinary treatment the mare was very little further trouble, and made a complete recovery in three weeks.

Remark. How often do we condemn an animal to receive a bullet when if nature were put on the right course she would help us to bring about a recovery? When one come across cases of the above type, does it not appeal to us that we may be at times too hasty in ordering slaughter? which I very nearly did before trying what I could do in this case.

Mr. Somerset first dealt with the case seen in Mr. Sampson's yard that afternoon, and said he had seen a similar case to the mare with a stiff neck, in the hands of a horse dealer. The animal was stiff in front, and had difficulty in getting its head to the ground. The back was roached and the animal was emaciated. Tuberculosis was suggested. The animal, however, was sold and lost sight of.

Mr. Hudson stated that he had seen cases of stiff neck in tuberculosis and strongylosis. He had met with a strongyle in the scrotum.

Mr. Marrison thought the stiff neck might possibly be due to encysted worms in the muscles.

The President said he thought that inversion of the bladder was not common in mare. He had seen occasionally cases in cows.

Referring to the open-air treatment of tetanus, he quoted a case of a colt recently castrated by a castrator. The cord hung out, and ten days after the operation signs of tetanus were manifest. The colt was taken out of his box and put into a field to take his chance. He was much improved and appeared likely to recover.

Mr. ROBINSON quoted a case of tetanus where the patient had to be lifted from ten to twelve days, and finally recovered.

Mr. HUDSON mentioned a case of dystokia and inversion of the bladder with urine squirting from the ureters. He could not return it, so delivered the foal first, and after embryotomy the foal was got away, this being followed by eversion of the uterus, and the mare had to be killed. The post-mortem showed that the everted bladder was full of the small intestine.

He had not seen coccidiosis in the horse, but had a bad outbreak in Jersey cattle grazing on low lying land, the case being confirmed by Sir John M'Fadyean.

He had tried the open-air treatment in a case of tetanus in a foal, but was not successful. In his experience acute cases of tetanus were usually fatal. In sub-acute cases he was fairly successful in treatment, and quoted a case where the animal while suffering was actually working in the plough. He found a dose of physic the best treatment, followed by one drachm doses of calomel night and morning. Recovery took place in three weeks' time.

Mr. SOMERSET stated that some years ago he attended two singular cases of tetanus. One was due to a chafed tail by a string from the rug. The animal recovered. The second case, in a hunter, also recovered by voluntary treatment.

In visiting the latter case he drove a horse which, upon arrival at the place of treatment, was also found to be affected with tetanus. He treated with bran mashes and boiled carrots. These caused indigestion and tympany. The animal was tapped and eventually recovered.

Mr. COLLINSON had met with a few cases of inversion of the bladder and had successfully reduced all of them. He had recently had four cases of tetanus, all in a short time:—

A foal infected through the umbilicus. It was not treated but turned out with the mare, and recovered.

A foal two months old, treated by injection of camphorated ether into jugular vein. The foal died.

A Shire mare lately stinted, received intravenously 5 c.c. of camphorated ether and 50 c.c. of camphorated oil hypodermically. After treatment the animal fell over, but got up again a little later with assistance. It was now recovering and showed nothing wrong except for a swelling of the shoulder on the one side, which he thought was due to the injection of the camphorated oil.

An unbroken three-year-old, suffering from a stab in the foot. He injected one dose of camphorated ether intravenously and one dose of camphorated oil hypodermically. Slinging had also been successful in his hands combined with antitetanic serum.

Mr. HUDSON mentioned a case of tetanus in a pony, treated with rectal injection of Chloral hydrate. The next morning the animal appeared quite well.

Mr. SOMERSET said he had seen a similar case in a pit pony which recovered in two days. He did not think this was a true case of tetanus, but had been brought on by fright.

Mr. MURGATROYD had met with a case in an animal which had been doped for sale. This also made a quick recovery.

Capt. OXSPRING stated that he had considerable experience of tetanus, and had turned the patients aside, but in no case of acute tetanus had recovery taken place. He thought anti-tetanic serum had been a successful preventive in his hands. He also had seen cases similar to tetanus due to fright. Recovery usually took place in a few days.

Capt. Oxspring also mentioned cases of coccidiosis which he had seen in calves in the West of England. Cases were there known as "bloody flux," it being accompanied by proliferation of the epithelium of the bowels and also disease in the liver. Mr. Sampson said in his case he saw purgation, but no blood or spots on the liver. The surface of the bowels was markedly corrugated.

Mr. SOMERSET proposed a very hearty vote of thanks to Mr. Sampson for his paper, for providing subjects for the operations and clinical diagnosis, and for his hospitality.

Mr. LLOYD seconded the vote of thanks, which was carried, and Mr. SAMPSON replied.

Interesting cases were also brought forward by some of the members. Mr. Thompson showed a specimen taken from a mare which had stoppage of the bowels for three days, gradually got worse and died. A post-mortem examination showed a lipoma on the surface of the small bowel and hernia through the mysentery. The tumour was covered by a band of omentum which strangulated the bowel, with the usual thickening, hæmorrhage, etc.

Mr. Sampson showed the small intestine of a dog obstructed by cysts on the outside of the bowel. He considered that pressure paralysed the circular muscle fibres of the bowel and nothing was passed.

A vote of thanks to the President ended a pleasant and interesting meeting.

J. S. LLOYD, Hon. Sec.

BRITISH EAST AFRICA, ANNUAL REPORT OF THE VETERINARY DEPARTMENT, FOR THE YEAR ENDING 31ST MARCH, 1916. [Abridged.]

The following constituted the staff of the Veterinary Department during the year 1915–16:—

Chief V.O., R. J. Stordy. *Dpty. C.V.O.*, W. Kennedy.
Veterinary Pathologist, R. E. Montgomery.
Veterinary Officers, R. Edmondson, A. G. Doherty, H. H. Brassey-Edwards, F. J. McCall, O. Dixon, R. C. Wheeler, W. W. Henderson, G. N. Hall, F. J. S. Sheedy, A. W. Carter, T. C. Bradshaw, M. H. Reid.
Assistant Veterinary Pathologist, W. Kerney. A Permit Officer: two Clerks; four Livestock Inspectors.
Four Indian Vety. Assistants, Ghulam Hassan Shah, Karam Ellahie, Khalilur Rahman Khan, Mohamed Ramzan.

I.V.A. Karam Ellahie left the service on Nov. 27, 1915, in order to take up a post as Assistant Professor in the Veterinary College, Lahore, India.

East Coast Fever—Progress of Dipping.

As a result of the heavy mortality recorded amongst cattle, drawn from native reserves, collected at various military supply centres, it is evident that in the so-called infected reserves there must be large areas where the disease is non-existent. This only emphasizes the necessity for erecting dipping tanks in these reserves, to check the spread of the disease, and to safeguard the clean herds.

During the year Government tanks have been completed at Nairobi, and at Rumuruti, and a tank has been erected by the Military Authorities at Fort Ternan. Several private dipping tanks have also been erected, and some 80 are now in use in the Protectorate.

It has been noticed on several farms where "red-legged" ticks are prevalent, that those situated inside the ears frequently survive an immersion in the dipping fluid, and the attention of stock owners is drawn to the necessity for frequently dressing the inside of the ears of cattle infested with these ticks with a mixture of lard and Stockholm tar, in order to get rid of them.

When dipping operations are commenced on heavily infected farms in this country it has been found that a considerable mortality occurs amongst susceptible stock during the first year. This experience is similar to what

has been found to occur in Rhodesia, and differs from that of stock owners in South Africa.

The following extract from the Government Analyst's report is of considerable interest:—During the year 1915, the number of samples of cattle dip analysed and reported upon was 650, against 480 in 1914. The results show no improvement upon those of the previous year as will be seen from the following table:—

	Percentage of samples.	
Percentage error.	1914.	1915.
0—10 ...	61·4	54·5
11—20 ...	20·6	25·7
21—30 ...	9·2	10·3
31—40 ...	4·0	3·8
41—50 ...	1·5	2·6
Greater than 50 ...	3 3	3·1
Sufficiently correct ...	61·4	54·5
Dangerously incorrect	18·0	19·8

It was anticipated that, with more experience, the dip owners would improve upon their record of 1914 in the matter of maintaining their dips approximately correct, but it is apparent from the above comparison that in reality there has been a slight falling off in the skill displayed. Probably the fact that many of the settlers have left their farms in order to do Military service is quite sufficient explanation and, from this point of view, it is satisfactory that the results are so near to those of the previous year.

It has been left to the discretion of the owner, how frequently he shall have an analysis made, so that it has happened that whereas some owners have only once or or twice submitted samples for analysis, others have sent in up to 32 samples in the year.

It sufficiently appears from the preceding classification of samples that considerable improvement should be made in the direction of maintaining dips in a state of efficiency. It is very obvious that the owners are frequently working in the dark as to the capacity of the dip and hence cannot make necessary corrections when they have been informed of their error. The consequence of this is that they immediately send a fresh sample in order to ascertain how far their attempt at correction has succeeded.

The analysis of arsenical dips costs time and money, and this method of obtaining analysis after every correction, instead of relying upon exact calculations of volume of the dip and accurate measurement of the material added, is taking a grossly unfair advantage of the privilege of free analysis which has so far been afforded the dip owners. It has been conclusively proved that this method of correction by trial, instead of by calculation, is not only expensive to the State, but is also unsuccessful.

Steps are being taken to encourage the dip owner to acquire an intimate knowledge of the capacity of his dip, and to take a lively interest in the accurate measurement of all intentional and accidental additions and subtractions, and to discourage him from attempting to place upon the State the burden of maintaining his dip efficient.

Attention in previous reports has been drawn to the changes in composition which dips undergo, particularly to the processes of oxidation and reduction.

There appears to have been about 76 dips under observation during the year—the exact number is doubtful, as samples from the same dip are sometimes sent over different signatures and the tracing of these is difficult—and in 47 of these the oxidation has not been very great, the quantity of arsenate formed not having at any time exceeded 25 per cent. of the amount of arsenite present. In 18 dips the arsenate reached a maximum exceeding 25 per cent., but not exceeding 50 per cent. of the arsenite, and in all dips a maximum of arsenate exceeding 50 per cent. was reached. In one case oxidation proceeded so far that there was actually at one period over 2½ times as much arsenate as arsenite present. The cycle of oxidation and reduction was in one case completed twice in the year, in two cases it took approximately nine months; several cases indicated a complete cycle in about 12 months, while in many cases the course of the changes was irregular, and the oxidation did not steadly proceed to a maximum followed by a continuous reduction.

It has occurred in many cases that a dip has been kept in use long after it has become filthy and thick with dung and mud. There are not lacking indications that these dirty dips are inefficient, even when the analysis indicates a satisfactory arsenic content. It is highly probable that compounds of iron with arsenic are formed which have practically no toxic properties. Perhaps further experience will enable a more definite statement to be made as to the amonnt of mud, etc., which may be tolerated.

Several cases of error in sampling have occurred—tins which have been used for measuring out Cooper's dipping fluid have been immediately afterwards used to take a sample from the dip; bottles with a quantity of rinsing water left in have been filled up with the sample, etc. Cases have occurred where the results of analysis have given great surprise to the dip owners, and explanations have been demanded of the analyst. In these cases the usual sources of error in sampling have been pointed out, and the owner has sometimes recognised one or other as the probable explanation; in other cases no explanation has been forthcoming excepting that some serious miscalculation has been made in making up the dip.

Rinderpest. Outbreaks of this disease occurred during the year in eleven settled areas. In suppressing these outbreaks the double inoculation method was used at Molo, Nairobi, Thika and Machakos. The other outbreaks were dealt with by the inoculation of serum only. The mortality from double inoculation has proved to be as small as in previous years and there is no doubt that this is the best method for dealing with the disease in this country, owing to the constant danger of the disease being reintroduced from infected native reserves, or through the migration of infected wild game.

In September, 1915, the Veterinary Pathologist reported that instances had come under his notice which went to prove that the double inoculation of calves under six months old did not always result in the production of a permanent immunity to rinderpest. A circular letter was therefore issued to all Veterinary Officers informing them that calves which are double inoculated for rinderpest when under the age of six months should not be considered immune and consequently should not be branded A M (this brand signifying active immunity). At a later period when such calves are over six months old they should be again double inoculated, and branded as immune.

At the Fort Ternan Quarantine Station 1367 military cattle and 2328 cattle, the property of settlers and traders, were double inoculated during the year.

The Laboratory issued the following quantities of serum during the year:—

To Military Authorities,	East Africa	42,352
	Uganda	10,080
Veterinary Department,	E.A. Protect.	34,810
	Uganda	25,032
Settlers and Traders		3,500
Government of Nigeria		10,080
	Total	125,854

Anthrax. Several cases of this disease occurred at Fort Ternan Quarantine Station amongst cattle undergoing quarantine after double inoculation for Rinderpest: the injection in many cases appeared to take place

at the site of inoculation and in some cases infected animals lived for 20 days after developing symptoms. There is strong evidence to show that animals may be infected with the bacillus of anthrax without ciinical symptoms of the disease being apparent, and it has been demonstrated, that while this bacillus may be innocuous, or at least non-fatal, to a number of indigenous animals, the same bacillus may prove highly fatal to others.

It is by this factor that we might assume anthrax is carried from animal to animal in the process of double inoculation for rinderpest. Many no doubt will miss infection, others though infected do not sicken, while others, again, contract anthrax and die. Cases of anthrax also occurred amongst transport cattle working on the Mumias-Kisumu Road, and in the Nairobi and Kiambu districts. As this disease is communicable to man and proves frequently fatal, animals intended for human consumption should be carefully inspected and temperatured before slaughter.

Pleuropneumonia. A few cases of pleuropneumonia came under notice among the stock confiscated from the Turkhana. The precautions taken prevented animals from being moved to the settled areas.

With regard to the quarantine area for this disease in in the Masai Reserve every possible precaution is being taken to prevent the spread of the disease from this area, but owing to the large purchases of slaughter-oxen which are being made from the Masai for military purposes the owners of the infected herds may be tempted to evade quarantine restrictions and sell infected animals to the military.

Contagious abortion of cattle. This disease has come under notice on a few farms in the Molo, Nairobi, Naivasha and Machakos Districts, but it is of such an insidious nature and usually pursues such a mild course in native cattle that it is highly probable that it will be found to be much more wide spread than is at present suspected. The disease spreads from farm to farm through infected cattle changing hands, and too often unscrupulous farmers conceal the fact that their herds are infected, to enable them to dispose of their stock. On the other hand, owing to the mild course it usually follows in native cattle, the disease may be present in a herd without the owner having suspected its existence.

It is probable that the disease in this country will be found to be a most serious one, should it appear in herds of grade cattle. It is therefore highly advisable that all cattle breeders should take every precaution to safeguard their herds against the disease. Rigorous preventive measures enable the disease to be effectually controlled only in herds that are well looked after, and experience in Europe and other countries goes to prove that for the present effective legislation cannot be devised.

The most practical method of preventing the introduction of this disease on to a farm is to submit all newly purchased breeding animals to some months quarantine on an isolated portion of the farm before they are allowed to commingle with the animals of the homestead.

Trypanosomiasis. An outbreak of trypanosomiasis occurred in June, 1915, amongst settlers' cattle in the Thika District. A veterinary survey was carried out over the whole district in July and August, when it was found that the disease was being largely disseminated through the agency of the common bloodsucking cattle fly (Stomoxys). The area implicated was placed in quarantine in September, 1915, and since then a veterinary officer has been permanently retained in the district, carrying out periodic examinations of all cattle; destroying all animals found to be affected with the disease. The measures to date have been instrumental in reducing the incidence of the disease, and there is reason to believe that the disease will be eradicated along the transport routes in the near future, when it will be possible to allow freer movement of cattle in the district.

Foot-and-mouth disease. An outbreak of this disease occurred at the Laboratory amongst cattle imported from Uganda. Prompt action was taken to segregate the affected herd, and any danger of the disease spreading to the Native Reserve was prevented, through the kindness of the Officer Commanding the Nairobi Defence Force, who kindly supplied an armed guard to patrol the infected area.

This outbreak gave the Veterinary Pathologist an opportunity to satisfy himself in regard to the virulence of the Uganda form of this disease. It proved to be of a very benign type, and local stock possess a considerable resistance to it.

Quarter evil. Outbreaks of quarter evil have been reported in Nyeri, Lumbwa, Nakuru, and Kisumu Districts. A vaccine produced at the Laboratory has been used and has given good results.

Epizootic and Ulcerative Lymphangitis. It is gratifying to find that very few cases of epizootic lymphangitis were noted during the year, and there has been a great diminution in the number of cases of ulcerative lymphangitis also. This decrease is mainly due to the fact that practically all the equines in the country came under veterinary inspection during military commandeering operations, when most of the affected animals were either destroyed or sent to the Laboratory for treatment.

The organism of ulcerative lymphangitis is present in the soil throughout the Protectorate. No good cause could be served by keeping this disease on the schedule of notifiable diseases, and steps were taken to delete this disease from the Diseases of Animals Ordinance.

Horse sickness. This disease was the cause of considerable mortality among military remounts in the Nairobi, Mbagathi and Bissel Camps.

Few cases have been reported by farmers during the year, but this is probably not due to the disease being less prevalent than formerly, but because owing to the war fewer animals are to be found on the farms.

Strangles. Several consignments of remounts from South Africa arrived at Kilindini infected with strangles, the disease proving to be of an unusually virulent type. As great care is exercised to prevent any affected animals being sold at the sales of remounts there should be no risk of this disease appearing on farms.

Sheep and goats. The principal diseases of the sheep and goat which have come under our notice during the year in our military flocks have been Nairobi sheep disease, contagious foot-rot, verminous gastro-enteritis and contagious pleuro-pneumonia of the goat.

The permit system.

I take this opportunity of thanking the Honorary Permit Issuers for their co-operation and kind assistance during the past year.

When compulsory dipping is instituted it will be possible to considerably modify the quarantine regulations. All movement of stock, so far as East Coast Fever is concerned will be regulated under dipping rules and the differentiation of clean and infected areas will no longer be necessary.

The farmer who neglects to dip his stock will be the only person to suffer, as he will be unable to move cattle from his farm.

Meat Inspection.

The following are the Nairobi slaughter-house returns returns for the past financial year :—

	Slaughtered.	Condemned.
Bullocks ...	4,749	106
Sheep and goats ...	30,965	96
Pigs ...	337	nil

For purposes of comparison the number of animals slaughtered during 1912–13, 1913–14 and this year were as follows :—

	Bullocks.	Sheep and goats.	Pigs.
1912–13 ...	1,057	30,482	nil
13–14 ...	1,567	35,957	102
14–15 ...	4,749	30,965	337

The large increase shown in the number of bullocks slaughtered is accounted for by the fact that a large number of slaughtered oxen for the military authorities were dealt with.

Trading. Through the Veterinary Station, Rumuruti, the following stock was inspected, inoculated or dipped and passed :—

Cattle ...	8964
Sheep and goats ...	7812
Horses ...	80
Mules ...	435
Donkeys ...	94

The revenue accruing from inoculation fees throughout the Protectorate amounts to Rs. 20,908.

Branding of Stock. During the year ending March 31st, 1916, 35 new brands were registered.

General.

As the entire staff of the Veterinary Department is still carrying out military duties as the East Africa Veterinary Corps it has been often exceedingly difficult to cope with outbreaks of disease, but every endeavour has been made to do so promptly and effectively.

The military duties of the Veterinary Corps included the purchase of all livestock for meat supplies for the troops, and the purchase and control of all remounts. Owing to the large importations of military animals it however became essential to keep a large veterinary staff in the field with the troops, and to do this it was found necessary to hand over the control of the Livestock Department to the Supply Corps. This was done in November, 1915, and in February the control of the Remount Department was passed to Lt.-Col. Findlay, Deputy Director of Remounts.

This enabled the Veterinary Corps to devote its energies to work of a purely veterinary nature, and to the purchase and inoculation of military transport oxen.

In conclusion, I would take this opportunity of expressing my high appreciation of the excellent work carried out by the members of my staff.

(Sd.) ROBERT J. STORDY,
Chief Veterinary Officer.

Nairobi, March 31, 1916.

Sir Stewart Stockman, of the Board of Agriculture and Fisheries, has contributed to the *Journal of Comparative Pathology and Therapeutics* an account of special investigations into the etiology and epizoology of "louping-ill," with special reference to the "tick theory," which has been the subject of much discussion, but has never received general acceptance. The result of a close investigation of the fluids and tissues of sheep affected with louping-ill has been to furnish strong evidence against the idea of a protozoan organism, carried by ticks being the cause of the malady.—*B.M.J*

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Outbreaks (a)	Animals.	Outbreaks (a)	Animals.	Outbreaks (b)	Animals.	Outbreaks (b)	Animals.	(b)	Outbreaks (a)	Slaughtered. *
GT. BRITAIN. Week ended Sept. 22	4	4			1	1	24	28	1	22	11
Corresponding week in 1916 ...	7	8			2	2	16	29	4	51	23
Corresponding week in 1915 ...	3	3					18	34	1	43	99
Corresponding week in 1914 ...	10	12			1	1	4			103	470
Total for 38 weeks, 1917	342	390			21	35	1946	3737	400	1777	773
Corresponding period in 1916 ...	392	463	1	24	40	98	1747	3222	189	3476	8739
Corresponding period in 1915 ...	436	497			38	68	623	1345	161	3136	13802
Corresponding period in 1914 ...	548	600	22	108	79	232	1526	2638	155	3063	30470

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :—London 1
Board of Agriculture and Fisheries, Sept. 25, 1917 Excluding outbreaks in army horses.

IRELAND. Week ended Sept. 22	...	...	...	...	...	...	Outbreaks 1	8	...	3
Corresponding Week in 1916 ...	...	...	...	...	...	...	...	8	11	74
Corresponding Week in 1915 ...	...	...	...	...	...	...	1	2	5	25
Corresponding Week in 1914 ...	...	...	...	...	...	...	2	3	1	5
Total for 38 weeks, 1917 ...	3	5	...	...	1	1	40	289	185	1079
Corresponding period in 1916 ...	3	7	...	...	...	...	54	309	245	1432
Corresponding period in 1915 ...	1	1	...	...	1	3	57	307	191	1082
Corresponding period in 1914 ...	1	1	76	955	...	...	67	400	161	841

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 24, 1917.
NOTE.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :—

B. S. Cockerton, London, E.	£1	1	0
D. A. Gillmor, Capt. A.V.C. (1916, 1917)	2	2	0
J. J. O'Gorman, Capt. C.A.V.C.	1	1	0
W. Cecil Lowe, Lt.-Col. A.V.C.	1	1	0
C. S. Northcott, Lieut. A.V.C.	1	1	0
J. W. Pollock, Lockerbie	1	1	0
W. R. Watson, Thornby	1	1	0
H. H. Worrow, Shadwell, E.	1	1	0
Previously acknowledged	873	19	0
	£883	8	0

Sterilised Meat.

At the annual congress of the Incorporated Sanitary Association of Scotland, held recently at Glasgow, Mr. A. M. Trotter, Chief Veterinary Surgeon to the Corporation of Glasgow, read a paper on the sterilisation of tuberculous meat, in which he stated emphatically that sterilised meat could not produce disease in the consumer. In support of this view he quoted a letter from Prof. Banks, the well-known authority on tuberculosis, who wrote : "I am of opinion that there does not exist any reason to believe that it would be dangerous to use for human food a tuberculous carcase of good quality in sterilised condition."

Mr. Trotter said that in Glasgow at least 300 tons could be conserved annually by sterilisation, and this would provide sufficient meat for 2,000,000 meals. He expressed the opinion that the meat ought to be sold only in premises set apart for the purpose, and its selection, preparation, sterilisation, and distribution supervised and controlled by officials of the local authorities. Owing to the difficulties involved, he declined to decide whether full responsibility for sale should be taken by the local authority or by members of the trade. The local authority of the burgh of Hamilton had assumed the responsibility. In Aberdeen the equipment, working, and distribution through special premises had been handed over to the incorporation of fleshers, but the selection of the meat as well as the supervision would remain in the hands of the meat inspection staff. The Aberdeen authorities had certainly rid themselves of much financial responsibility, and incidentally of probable and possible recriminations.

A description was given of meat sterilisation experiments carried out by Mr. Trotter. The apparatus employed was a cylinder 4½ feet long and 1½ feet diameter; the under third being double walled. Steam might be admitted either into the cylinder or into the double-walled compartment. In the interior of the cylinder was a movable tray, with a receptacle underneath to collect the juices as they dripped from the meat during process of cooking. A pressure gauge and a thermometer were attached so that the pressure and temperature could at all times be ascertained. After the meat was placed on the tray the apparatus was hermetically sealed. The steam was then admitted to the double-walled compartment with the view of facilitating the creation of a vacuum, which was secured by means of an exhaust pump. When the required vacuum had been obtained, the steam was admitted into the cylinder, and came into direct contact with the meat. Into the centre of the largest piece of meat was inserted a contact thermometer attached by wires to a battery and electric bell. When the temperature in the centre of the selected piece had been raised to the desired degree a contact was formed and the bell rung. After the bell had rung, steam was maintained for 15 minutes to ensure the process of sterilisation was complete. The contact temperature was in every instance 195° F., *i.e.*, the ascertained thermal death point of the bacilli tuberculosis, but as the temperature would be steadily rising during the 15 minutes of prolonged steaming after the ringing of the contact bell, it could with all safety be asserted that all tubercle bacilli which might be either on or in the meat would have been killed.

In the actual experiments several pieces up to 10 lb. in weight were tested. Two samples were trimmed in the usual manner required by the Corporation, and after sterilisation were reported by the analyst to have "proved quite sterile by the ordinary tests," and to have given "rise to no tubercular or other morbid reaction on inoculation." The third sample, consisting of three pieces each about 7 lb. in weight, from the thick portion of the foreleg of a second grade cow-carcase, was untrimmed, so as to test severely the efficiency of the process. As to it the analyst reported:—"Sample C showing tubercles on pleura over portions of three ribs also gave negative results when tested in the same manner by culture and inoculation."

In the paper Mr. Trotter referred to the wide diversity in methods of meat inspection, and the need for a uniform system. The Royal Commission on Tuberculosis, which dealt with this subject in 1896, called for the issue of recommendations which would make for uniformity, and such recommendations have been issued. In his experience they had not had much result. The main point, however, was the great waste of food caused by this diversity in methods of inspection. He pointed out that ordinary culinary methods cannot be relied upon to render harmless tubercle bacilli in the interior of a joint.

In the course of the discussion on the paper a letter was read from Prof. Sims Woodhead, Cambridge University, who wrote that sterilisation at a proper temperature made tuberculous meat innocuous and nutritious.

Prof. Matthew Hay, Aberdeen, wrote that he publicly expressed his concurrence with the views that Mr. Trotter put forward in his paper. In Aberdeen they believed that if meat were selected by their own staff and sterilised under their supervision to kill any tubercle germs, there would be no danger whatever to the consumers, and a considerable quantity of available food would be saved. Our success in the war might ultimately depend on the efficiency of our food supply. The almost universal practice in the country was that not more than half of the carcases exhibiting evidence of tuberculosis were wholly condemned. Of the remaining half only parts were destroyed. The rest of the carcase was passed undesignated and unsterilised. Sterilisation would tend to secure that our meat supply would be placed on a safer and more scientific basis. A special shop would be necessary for the sale of sterilised meat. It was only right that every purchaser should know what he was purchasing, and that dealers should not be tempted for the sake of higher profit to sell such meat as ordinary meat. It ought not to be sold in eating houses except on condition that it was the only kind of meat used, and a notice to that effect was conspicuously exhibited

Mr. Roderick Scott, convener of Glasgow Public Health Committee, held that no process that he knew of could make diseased beef sound. They might by the treatment suggested make it innocuous, but if it were incinerated it would be much more innocuous. (Laughter). What did the Jews do? Everything that was diseased was condemned. They said, "Feed the Gentiles with it; we won't have it." (Laughter). He claimed that he had never known an orthodox Jew to have tuberculosis.

Prof. Glaister supported the view that sterilisation would kill bacilli.

Tuberculin in Cancer.

At a meeting of the Swedish Förening for the Invärtes medicin, Dr. I. Holmgren gave an account of his experiments with tuberculin in several cases of cancer. While he was medical superintendent of the St. Goran Hospital he had occasion to make necropsies on between three and four thousand tuberculous subjects, and was struck by the complete absence of malignant growths. It was therefore possible, he thought, that the tuberculous toxins might possess an inhibitive action on the growth of cancer cells. He found that the subjects of cancer were astonishingly tolerant of tuberculin, and, after he had experimented some time with comparatively small doses, he realised that much larger doses could be tolerated without any reaction. Indeed, in some cases he gave 100 mg. subcutaneously at the first injection. Of the fifty-two patients thus treated the majority did not react at all. There was no rise of temperature or general symptoms, and in 88 per cent. there was no rise of temperature above 38° C. (100·4 F.). In the few cases in which a febrile reaction occurred it lasted only a few hours. Dr. Holmgren came to regard tolerance for tuberculin as such a characteristic feature of cancer that he employed it in the differential diagnosis between cancer of the stomach and simple, chronic, gastric ulcer.—*B. M. J.*

ARMY VETERINARY SERVICE

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, Sept. 26.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lieuts. to be temp. Capts.:—H. W. Stevens, W. Cawthorn (Sept. 1).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Sept. 26.

Capt. J. A. Craft relinquishes his commn. on account of ill-health, and is granted the hon. rank of Capt. (Sept. 27).

The same old story.

When Julius Cæsar went to town
To purchase steaks and chops and such,
He tried to beat the butchers down,
And swore that prices were too much.
"Two cents a pound for steak!" he roared.
"Why, man, that's nothing short of crime!
You butchers are a greedy horde,
"It cost but one in Noah's time.

When Ollie Cromwell went to shop,
For beef and mutton and the like,
He said if prices didn't drop
He'd spit the butchers on a spike.
"Six cents a pound for steak!" he said.
"It's more than honest men can pay,
You folks are robbers on the dead;
It cost but two in Cæsar's day!"

To-day when we go out and find
That beef is thirty cents a pound,
We tarry there and speak our mind,
And scatter savage words around.
'Twas ever thus, in every age,
In every time and clime and season;
The price of meat has made men rage,
And always with abundant reason.

—James Montague, in the *New York American* (*ex Meat Trades' Journal*).

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S.
Pres: Mr. H. BARROW, M.R.C.V.S., Ireby, Carlisle
Hon. Sec: Mr. R. Craig Robinson, M.R.C.V.S., Carlisle
Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.
Pres.
Hon. Sec. Mr. John S. Keane, 11 Falkland Mansions, Kelvinside

ROYAL VETERINARY COLLEGE V.M.A.
Pres. & Hon. Sec: Mr. B. Gorton, M.R.C.V.S., M.F.S.
Hon. Treas: Prof. E. F. Shave, F.R.C.V.S.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH
Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock
Hon. Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S., Moore Street, Abattoir, Glasgow

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS
Pres: Mr. J. Abson, F.R.C.V.S., Sheffield
Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

MUNSTER VETERINARY INSPECTORS' ASSOCIATION
Pres: Mr. D. M. Barry, M.R.C.V.S., Mallow
Hon. Sec: Mr. J. F. Mahony, M.R.C.V.S., Caroline St., Cork

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester
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